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ABSTRACT

This research investigated the capacity of the Minnesota Multiphasic Personality Inventory (MMPI) to differentiate multi-disabled persons who had become successfully rehabilitated from those who had not. It was expected that the overall MMPI profile of unsuccessful rehabilitants would reflect a greater degree of psychological maladjustment than would the MMPI profile of clients with successful rehabilitation outcomes. Demographic variables were also used to compare a group of successful rehabilitated clients with a group whose cases had been closed unemployed. The subjects were 131 clients who had attended the Minneapolis Rehabilitation Center during a two-year period and whose cases had been closed at least one year. Concerning the comparison of MMPI profiles of the unsuccessful and successful groups of clients, the results indicated that the two profile configurations were "similar." It was suggested that a more profitable research task might be the development of an MMPI profile code type strongly related to rehabilitation failure. (Author)

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REHABILITATION COUNSELLING OUTCOME OF MULTI-DISABLED PERSONS: COMPARISON OF SUCCESS AND FAILURE GROUPS USING THE MMPI AND DEMOGRAPHIC DATA*

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Although many rehabilitation counselors may be disinclined to refuse services to clients who were potential non-rehabilitants, they would welcome the early identification of such clients so as to marshal the counseling and rehabilitation services which might best serve the handicapped individual. To help the clinician accomplish the early identification task, researchers in rehabilitation counseling have sought to identify those personality and demographic characteristics of handicapped clients which might accurately predict rehabilitation success or failure. The Minnesota Multiphasic Personality Inventory (MMPI) and other psychological tests have been used, with little success, to discriminate persons who are successful or unsuccessful in completing a vocational rehabilitation program and becoming employed in the competitive labor market (Ayer, Thoreson & Butler, 1966; Distefano and Pryer, 1970; Goss, 1969).

Similarly, there have been several attempts to isolate demographic variables which could either be used in multiple regression formulas or, at the least, could be considered by practitioners engaged in differential diagnosis (De Mann, 1963; Ehrle, 1964; McPhee & Magleby, 1960; Schletzer, et. al., 1959; Weiner, 1964). In general, the results of these studies are conflicting.

Perhaps part of the difficulty in isolating either personality or demographic variables which could distinguish the potential "successes" from the "failures" was the selection of subjects from the files of the state Division of Vocational Rehabilitation (DVR) instead of from the population served by comprehensive vocational rehabilitation centers.

While DVR agencies serve a broad range of clientele, rehabilitation centers have traditionally provided service to the multi-disabled; disabled persons with emotional problems who may have a long history of social, marital, legal, and employment problems, and marginal ability to cope with them. The multidisabled typically have a limited formal education and a poor work history, if any.

The purpose of the present research was to investigate the capacity of the MMPI to differentiate multi-disabled persons who had become successfully rehabilitated from those who had not. It was expected that the overall MMPI profile of unsuccessful rehabilitants would reflect a greater degree of psychological maladjustment than would the MMPI profile of clients with successful rehabilitation outcomes. Demographic variables were also used to compare a group of successful rehabilitated clients with a group whose cases had been closed unemployed.

METHOD

Subjects and Setting

The case files of clients who had attended the Minneapolis Rehabilitation Center (MRC) during a two-year period and whose cases had been closed by MRC at least one year were identified. For the sample of 131 clients, 73 were male and 58 were female. At the time of referral to MRC the age range for these clients was 16-59; mean age was 32.4 and 28.1 for men and women, respectively. Approximately 82% of these clients had physical disabilities and/or learning disorders; 18% were diagnosed as having emotional or mental problems.

The MRC is a comprehensive psycho-social, vocational rehabilitation facility which receives a substantial percentage of its clients from DVR.

The client services include assessment, work evaluation and adjustment, counseling, and job placement for those clients who were considered to have employment potential. Except for persons who entered long-term training programs or were re-institutionalized, all cases were closed employed (competitive or sheltered work) or closed unemployed. Generally, only clients who were multi-disabled or who required extensive rehabilitation services were referred to MRC. Thus, the sample used in this study was not representative of the general DVR caseload.

Data Analysis

MMPI and demographic data were obtained from the MRC files. Such data were routinely collected when the client entered the MRC program. Data analysis for the MMPI consisted of: a) a multiple discriminant analysis of the MMPI k-corrected scale scores to assess the similarity and distance of the MMPI profiles of the rehabilitated and non-rehabilitated groups, b) a Type I ANOVA (Lindquist, 1953) to determine whether the overall personality adjustment of the groups was different, and c) Scheffé (1959) post hoc t tests to test the statistical significance, between groups, of individual MMPI scales and demographic variables.

RESULTS

In order to assess the similarity of the MMPI profiles (Figure 1) of the successful and unsuccessful groups a multiple discriminant analysis was performed which yielded a generalized Mahalanobis D^2 (Rao, 1948) of 23.22. Since the D^2 statistic has a known distribution function it is possible to test the significance of the separation of the group profiles The D^2 of 23.22 was converted (Rao, 1953) to an F of 64.33 which is significant at or beyond the .01 level. In addition, the discriminant

analysis procedure provided a classification of subjects into the two groups based upon the generated discriminant functions. A Chi-square test of independence between the actual and the assigned classification of subjects yielded a X^2 of 1.83; not statistically significant. That is, the discrimination of subjects using MMPI scale scores in the multivariate analysis resulted in essentially the same classification of subjects which was made using rehabilitation outcome as the criterion.

The Mahalanobis generalized D^2 is designed to measure distance between groups and allows for the effects of the intercorrelations among the variables (MMPI scale scores). However, there are two drawbacks for this type of analysis. Nunnally (1962) underscored the difficulty associated with discussing "the semi-undefinable quality of 'similarity'" and Cronbach and Gleser (1953) proposed that shape, level and dispersion of profiles be analyzed separately. In order to assess differences in levels of scores between the two motivation groups (as contrasted with a shape analysis using the D^2) a Lindquist (1953) Type I analysis of variance was performed. These procedures resulted in an interaction F-ratio and a main effects between-groups, F-ratio which were significant at the .01 level (Table 1). The significant AB interaction precludes a meaningful discussion of the main effects F-ratio but allows between group comparisons over individual MMPI scale scores.

Post hoc Scheffé tests of the differences between individual MMPI scale scores for each group were then computed (Table 2). These results showed significantly higher scores by the unsuccessful group on the MMPI Validity scale, the Neurotic Triad (Hypochondriases, Depression, Hysteria), three of the four Psychotic tetrad scales (Paranoia, Psychasthenia, Schizophrenia), and the Social Introversion Scale.

To examine the relationship between rehabilitation outcome - success or failure - and certain demographic variables, Chi square tests of independence, with the Yates correction (Maxwell, 1961), were computed. Using MRC outcome criteria, successful rehabilitants were differentiated from the unsuccessful rehabilitation group by (1) age - they were 29 years of age or less, (2) marital status - they were single rather than married, (3) major disability type - they had been mentally ill rather than physically ill, and (4) income source - they received family support rather than welfare agency or workmen's compensation funds. Sex, type of onset of disability, and length of stay in the MRC program were not differentiating variables.

DISCUSSION

Why did the unsuccessful rehabilitants, in general, have higher mean MMPI profiles than did the successful rehabilitation group? What distinguishes the rehabilitation case which fails from the successful rehabilitant? Walker (1965) suggested that the main problem which disabled a hard-core unemployed group was mental illness. In his study of MDTA clients at MRC, Walker:

> . . . found that the hard-core unemployed have a history of severe and multiple problems, only one of which is unemployment. The majority have had difficulties throughout their life; in marriage and family relationships, living with themselves and others, limited education, inept social skills, physical disabilities, as well as intermittant employment.
>
> The center views their unemployment as a symptom of more basic psycological and social deficiencies. Education and skill problems are of lesser significance. Moreover, these difficulties appear to have existed for many years and are apparent in almost any area of their lives one chooses to examine - be it the marriage that failed, entanglements with the law, or the social isolation which so frequently characterizes them. These deficiencies are difficult to treat since so many of them do not see their own needs and often fail to make use of help when it is provided. In essence, the core of the hard-core unemployed appears to be mental illness.

Concerning the comparison of MMPI profiles of the successful and unsuccessful groups of clients, the results indicated that the two profile configurations were "similar". Both the overall mean MMPI scale differences between the two groups and several mean differences between individual MMPI scales for the two groups were statistically significant. The mean MMPI profile of the unsuccessful outcome group (Figure 1) is somewhat elevated but within "normal" limits. Such a profile, according to Dahlstrom and Welsh (1960), would reflect poor morale, a feeling of uselesness and an inability to assume a normal optimism regarding the future. The individual would be unhappy with current circumstances, somewhat suspicious of the motives of others, especially authority-persons, oversensitive and impatient.

It is evident that a cross-validation study is necessary to ascertain whether or not these MMPI discriminations are sustained upon replication. If the potential non-rehabilitant can be identified early in the rehabilitation process, special agency intake services and more client-centered (as compared to counselor-centered) counseling practices may be developed. For example, Brammer and Shostrom (1968) suggest that client readiness and motivation for counseling services can be increased by a) creating an agency climate conducive to seeking help, b) developing special precounseling orientation group meetings to build a realistic level of client expectation, and c) increasing counselor accessibility early in the rehabilitation process.

As was already noted, previous attempts to use the MMPI as a predictor of rehabilitation success have, themselves, met with very limited success. Perhaps a more profitable research task might be the development of an MMPI profile code type or types which would be strongly related to rehabilitation failure. The practicality of this approach has been demonstrated by Marks and Seeman (1963), who empirically determined the MMPI

profiles of 15 abnormal personality types and prepared an atlas for use by clinical psychologists in psychiatric settings. MMPI specification rules might be developed which would consistently separate the success and failure groups. Care would have to be taken to avoid an excess of false positives (that is, predicting failure for a client who would succeed) or false negatives (that is, predicting success for a client who would fail in his rehabilitation effort). Several types of treatment approaches or intake procedures might then be related to the client's state of readiness for rehabilitation services.

FIGURE 1

Mean MMPI Profiles for the Successful and Unsuccessful Groups

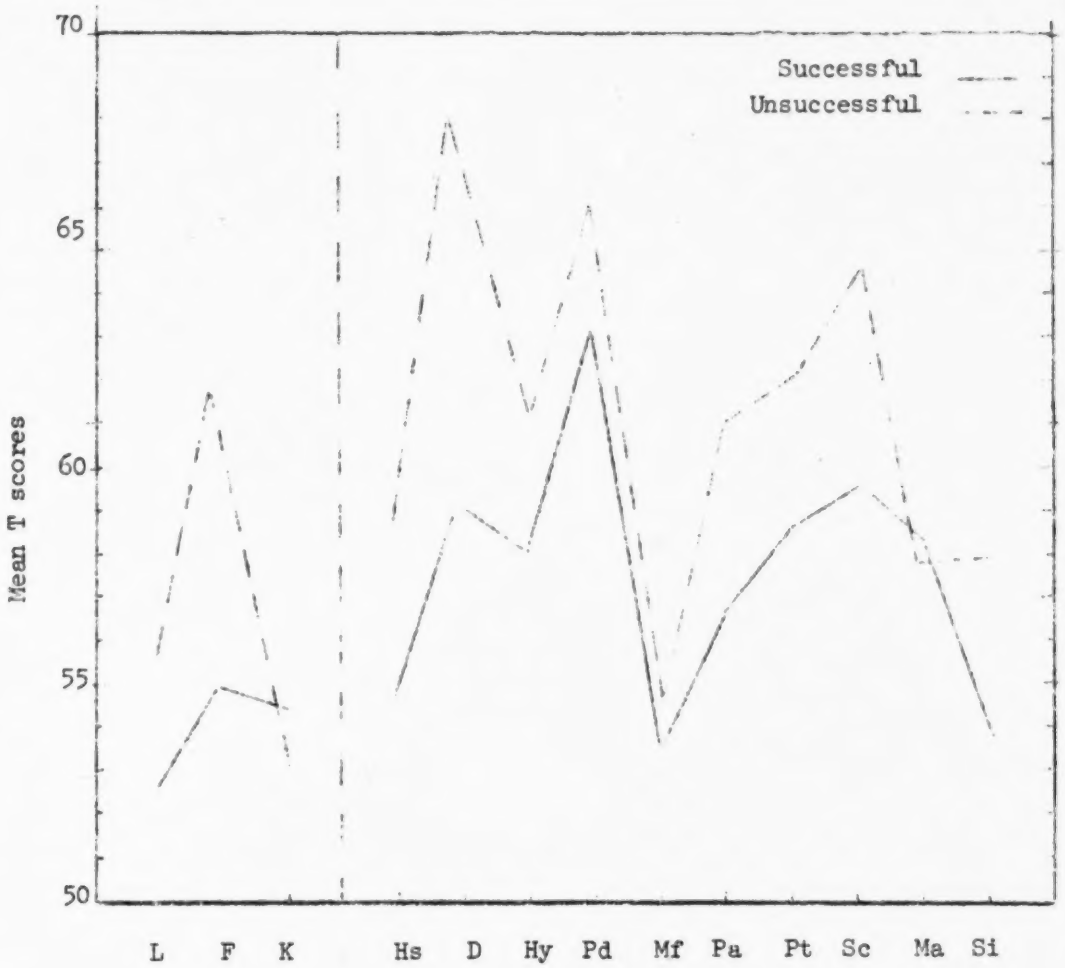

TABLE 1

Type I Analysis of Variance of the MMPI Scale Scores of a Successful (N=66) and Unsuccessful (N=65) Rehabilitation Group.

Source of Variation	Degrees of Freedom	Mean Squares	F-ratios
Between Subjects	130	467.90	
B (two groups)	1	5242.94	12.17*
Error (b)	129	430.88	
Within Subjects	1572	121.03	
A (MMPI Scales)	12	1662.61	15.39
AB	12	253.58	2.35*
Error (w)	1548	108.05	
TOTAL	1702	147.52	

* Significant at the .01 level

TABLE 2

Scheffé Post Hoc Comparisons of the Difference Between Successful and Unsuccessful Groups' MMPI Scale Scores

MMPI Scale	Successful Group Mean	Unsuccessful Group Mean	t
L (Lie)	52.64	55.62	1.43
F (Validity)	55.06	61.33	3.36*
k (Correction)	54.50	53.05	-0.72
Hs (Hypochondriasis)	54.30	58.68	1.92*
D (Depression)	59.11	63.15	4.44*
Hy (Hysteria)	57.92	61.32	1.69*
Pd (Psychopathic deviate)	63.11	66.14	1.51
Mf (Masculine - Feminine)	53.56	54.57	0.50
Pa (Paranoia)	56.61	61.09	2.23*
Pt (Psychasthenia)	58.43	62.22	1.85*
Sc (Schizophrenia)	59.52	64.63	2.54*
Ma (Hypomania)	58.29	57.78	-0.25
Si (Social Introversion)	53.79	57.92	2.05

* Significant at the .05 level

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